We and Our Environment

Part 3

For Class IV

By
Board of Editors
Council for Preparation of Textbooks

Translated By
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About "We and Our Environment" Part -3

The Social Science and General Science have since been included in the curriculum of Environment. By this arrangement, it has been attempted that children are introduced with their immediate atmosphere in such a manner that they are able to gather ample knowledge of their surroundings.

On the pattern of the book "Aam Maloomaat" (General knwledge) compiled by the late Afzal Hussain Sahib, a new set of books is being prepared so that the latest information can be made available to the students. This very series will be published *Insha'allah*, by the name "We and Our Environment".

We extend our gratitude to all those who have contributed to this endeavour. Mr. Kamil Raza has taken special interest in the compilation of the manuscript and in making it presentable. Dr. (Mrs.) Qamar Shareef, Mr. Mohd. Zia Uddin and Mr. Irfan Ahmad Siddiqui have also seen the manuscript and extended useful suggestions. We are thankful to our sister Mrs. Zafar Sayeed Bano for translating this book into English from Urdu version "Hum Aur Hamara Mahol" Part-3. We are also thankful to Br. Sikandar Azam Asstt. Editor Radiance Weekly for reviewing this english version of the book. In a bid to make the book more useful, the valuable suggestions from teachers, parents and knowledgeable persons will be eagerly awaited.

24th Dec. 2009
Delhi

Mohd. Ashfaq Ahmed
Supervisor

Foreword

Allah has gifted each one of us an elegant body with various powers and faculties. Our creator has also provided us with certain elaborate rules and regulations for the survival and growth of our body. Any violation of these fixed rules and regulations leads to disastrous consequences. It is therefore imperative on our part to have sufficient knowledge of the structure of our body, functions of its different parts and organs, survival of its existence, growth of given of powers and abilities enabling us to make optimum utilization of them in achieving the very purpose of our creation.

We have taken birth in a particular society having some peculiar characteristics. Its various elements continuously affect our lives. The development of our personality and growth of our disposition mainly depends on our environment. Our inclinations, our thoughts and our mentality also in a way have direct relation with the changes taking place in the various elements of the society we live in.

We are social by nature and can't live in isolation. Leading a social life is our requirement as well as our compulsion. It is therefore necessary on our part to have sufficient first hand information about the structure of our society, the principles on which the society is generally established, its various components and their impact on our personality and character. The creator has decorated his universe with a variety of objects. We have been appointed as vicegerent on this earth. All creations of the universe as well as various manifestations of nature, in one way or the other, directly or indirectly, are subservient to us for the fulfilment of our assigned duty as the vicegerent on this earth. It becomes, therefore, inevitable to gather ample knowledge about them and also the methods for their best usage. In other words, the essential

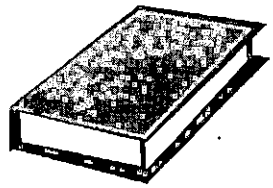
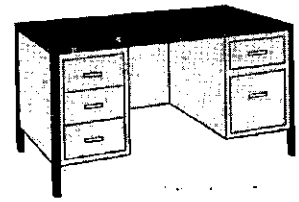
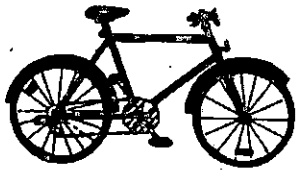
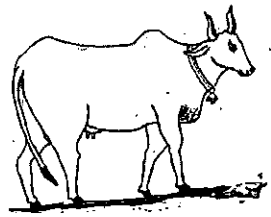
knowledge about our body, our society and that of nature and social environment has got to be the indispensible part of our educational scheme of things. Plenty of books on the subject are available in market. A deeper insight into the minds of the authors of such works, however gives the impression that they have penned down their endeavours on the unscientific premise that this universe is running without any God. And hence, such unrealistic compilations cannot be of any desired use for our students. This is the spirit behind the preparation of the present series of General knowledge Books. It is sincerely hoped that by the grace and support of the Almighty, this series of interesting books will be of immense use for the students.

It is impressed upon the teachers to provide students with all possible opportunities of observation and experiments. Curiosity is a natural instinct. It is at its marvelous best in the childhood. From the day one, children start observing the things around them with curiosity and insight and become eager to find out the answers to various queries propping up in their inquisitive minds. They are therefore emotionally attached with the details of this subject. However, this urge is more satisfied by observation rather than listening. It is therefore requested to the teachers that the number of lectures should be kept to the bare minimum. Instead, the students should be encouraged in carrying out maximum observation and experiments. Not much reliance is to be made on books for the primary classes because the attention of such kids is generally on text and their minds are not capable of comprehending the meaning at such a tender age. The contents of a chapter are to be explained in detail first and then reading from the book should be advised.

(Rajab, 1374 A.H.) ***Afzal Hussain***

1 Living and Non-Living Things

Look at the things around you. You see different kinds of things eg. book, pen, table, chair, cycle, tree, dog, cow etc.

Some of these things can move from one place to another by themselves and some of them cannot go from one place to another on their own.

Make a list of the things as mentioned below:

Things that can move on their own	Things that cannot move on their own

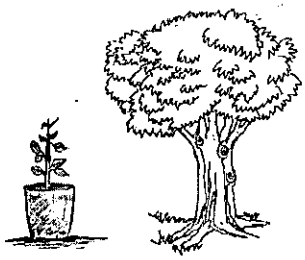
Even plants cannot move from one place to another on their own. But they do show some movement. You must have seen a sunflower. It always faces towards the sun. Similarly the leaves of "Touch-me Not" plant shrink on touching. This is also a plant movement.

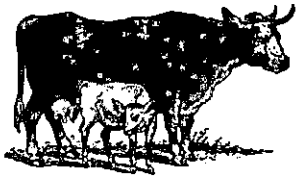
Some of the things need food to live whereas some other things do not need food.

Fill the following columns with appropriate names of things:

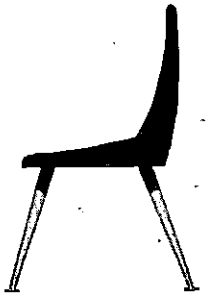
Things which need food	Things which do not need food

Plants also need food. However they prepare their own food. To prepare their food plants need sunlight, carbondioxide gas, water and mineral salts.





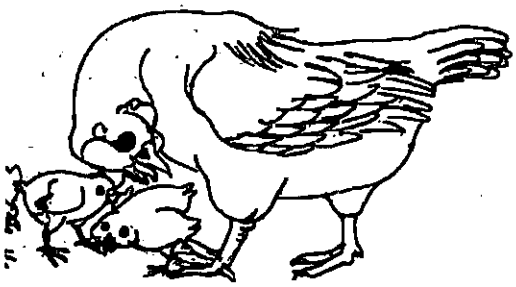
What do you conclude on seeing the picutres above. Some things grow with the passage of time. Do the things shown below also grow with the passage of time?

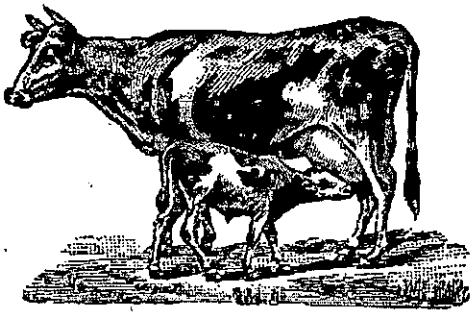


Make a list of the things which grow with the passage of time and things which do not grow.

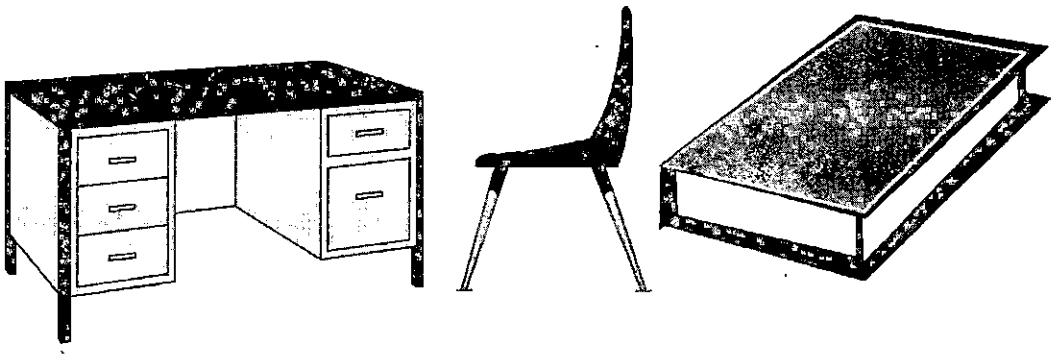
Things which grow with the passage of time	Things which do not grow with the passage of time.

Now look at the pictures below carefully





All these things give birth to young ones like themselves. Do the things shown below also give birth to young ones like themselves?



From the above discussions we conclude that-

All those things

1. Which can move on their own;
2. Which need food, water and air to live;
3. Which grow;
4. Which give birth to young ones like themselves;

are called "Living Things".

Things which do not have these characteristics are called "Non-Living Things".

Exercise

1. Oral Work

A. Answer the following questions:

1. Name any three living things around you.
2. Give any two differences between living and non-linging things.
3. Name any four non-living things around you.
4. Are plants living or non-living?
5. From where do plants get their food?

B. Put a (✓) for correct and (✗) for incorrect statements.

1. Plants are living things. ( )
2. A moving bus is a living thing. ( )
3. Plants do not show movement. ( )
4. Animals and birds are living beings. ( )
5. Non-living things need food to live. ( )

2. Written Work

A. Answere the following questions:

1. What are the characteristics of living things?
2. What are non-living things?
3. Prove that plants are also living things.
4. How is the movement of a scooter or a car different from the movement of a human being?
5. How can you say that a table and a chair are non-living?

B. Fill in the blanks:

1. All ..... breathe. (*living things/non-living things*)
2. ..... can neither move nor breathe. (*Living things/ Non-living things*)
3. All living things need ..... to survive.(*air/medicine*)
4. Going from one place to another is called ..... (*movement/excercise*)

C. Write the following under the suitable column:

Pigeon, Motorcycle, Plant, Telephone, Cat, Book, Table, Fish, Pen, Television.

Living Things	Non-Livning Things

Things to do

1. Write down five sentences on your favourite bird and draw a picture of the same.
2. Write down the names of five living and five non-living things which you come across on your way to school.

2

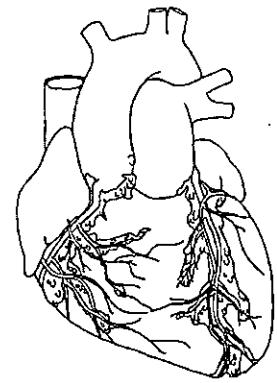
Our Internal Organs

Our body is like a wonderful machine. Every human body appears different from another due to differences in complexion, facial features, external structure, etc. but the internal organs of every human being are the same.

You have studied the external parts of the body like eyes, nose, ears, etc. in the previous class. These are called external parts because you can see them. The organs located inside the body are called **"Internal Organs"**. We cannot see them. Look at the picture on the right.

Heart, brain, kidneys, liver, stomach, intestine, lungs, etc. are internal organs. All these organs perform different functions. Let us now study the functions of each of them.

Heart

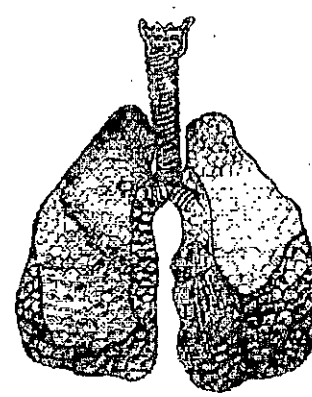


Keep your hand on the left side of your chest. What do you feel? The sound which you feel is the beating of the heart. The heart of a healthy person beats about 72 times in a minute. The heart of a child beats 80 times (or even more) in a minute.

Can you tell how many times in a minute does the heart beat after running? The heart functions like a pump. The work of the heart is to circulate blood to different parts of the body. Through the blood, oxygen and important particles of food reach each and every part of the body.

Lungs

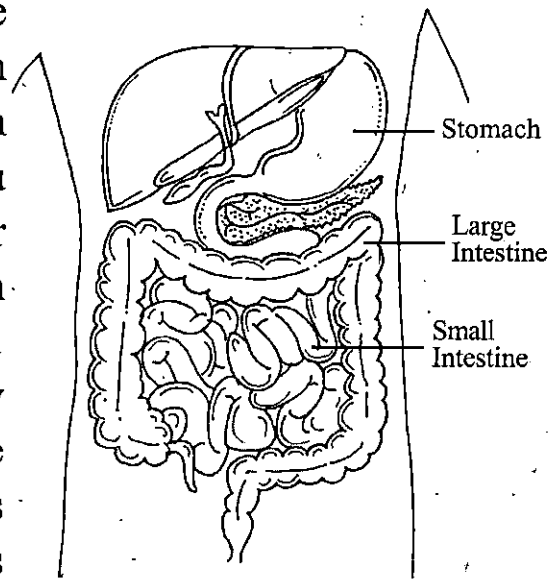
Nose, wind pipe and lungs help contained in the air which we breathe in. The blood in the lungs absorb oxygen and carries it to every part of the body. Lungs also help in exhaling the carbon di-oxide formed after the breaking up of glucose in the blood.



Stomach and Intestine

The function of stomach and intestine is to digest (break up into simple, small fragments) the food.

Mouth, throat, food pipe, stomach, small intestine, large intestine, etc. play a major role in the digestion of food. In fact, digestion of food starts in the mouth itself. When you chew a morsel of food in your mouth, the saliva present in the mouth softens and lubricates it so that it is easily swallowed and reaches the stomach. Saliva also contains digestive juice which converts starch into sugar. The inner layer of the stomach releases gastric juice which mixes up with the food and further digests it. The contraction and relaxation of the stomach muscles also continue so as to break the food into smaller particles. Finally it becomes pasty.



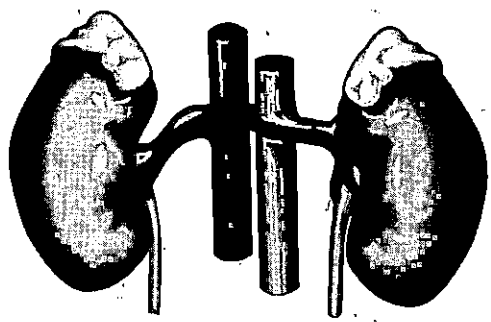
From the stomach the food moves into the small intestine. The blood capillaries present in the walls of the small intestine absorb the useful part of the digested food. The absorption of excess water and useful products is completed in the large intestine.

"The change of solid food material into simpler absorable form with the help of digestive juice is called digestion."

Kidney

Every human body has two kidneys. They are bean shaped. Kidneys help in filtering toxic waste products from the blood. These toxic products are excreted out of the body as urine.

If you want total excretion of these toxic products from



the body, you should drink a lot of water daily. Apart from urine, these waste produts are also excreted in the form of sweat.

The various organs of the body form different groups. The organs of a group perform a particular function together. The function of the various organs of a group togehter is called a "System". For example, Respiratory system, digestive system, etc.

Exercise

1. Oral Work

Answer the following questions:

1. Name any Three internal organs.
2. Which organs help in breathing?
3. Which organ of the body works like a pump?
4. Name the organs which help in the digestion of food.
5. Which organ helps in the excretion of toxic waste material from the body?

2. Written Work

A. Answer the following questions:

1. How is the process of digestion of food completed?
2. What are the main functions of the kidney?
3. What functions do lungs perform?
4. What is a system?
5. What function does the heart perform?

B. Fill in the blanks with appropriate words:

digestive juice, saliva, heart, intestines, seventy-two

1. ..... is an internal organ.
2. .....is a digestive juice.
3. The heart of a healthy person beats ..... times in a minute.
4. Stomach and ..... perform the function of digesting food.
5. The change of food into simple soluble form with the help of ..... is called digestion.

C. Match the following:

heart	absorption
stomach	oxygen
kidneys	beat
lungs	gastric juice
intestine	purification of blood

Things to do

1. Draw any three internal organs of a man and colour them.
2. Keep your hand on the left side of your chest and count your heart beat.

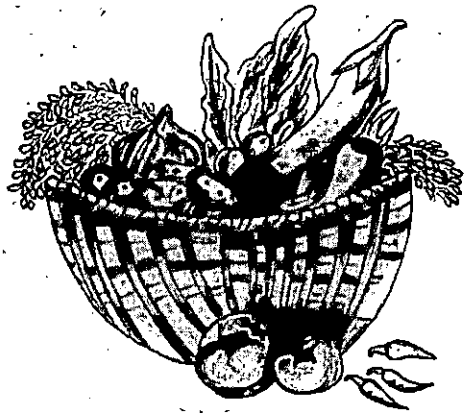
3 Food

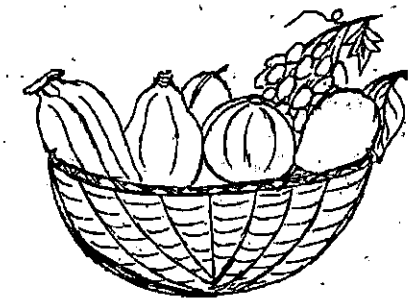
Apart from air and water, food is the most important thing needed by living beings. Without air living beings cannot survive even for a few minutes. Without water they can live for one or two days. Without food they can live for a few days. We get energy from food to do work. Food also helps our body grow and develop. Food is also needed to keep the body fit and healthy.

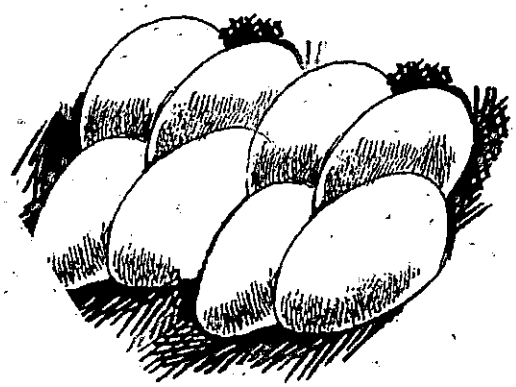
Like human beings, other living things as animals and plants also need food. A lizard catches insects for its food, a goat and a cow eat grass and cats hunt for rats.

Plants get their food by roots. Roots absorb water and minerals from the soil. You must have seen a farmer giving fertilizer in a field and a gardener putting fertilizer in a garden. Have you ever thought what this fertilizer is for? In fact this fertilizer is food for plants.

Plants also have the ability to prepare their own food. Allah has given green leaves the ability to prepare their food with the help of carbon di-oxide and water in the presence of sunlight.







We generally eat chapati, rice, vegetables, meat, egg, milk, fruit, etc.

All the things which we use as food are obtained from two sources.

These two sources are ---

(1) Plants, and (2) Animals

Plants give us different types of fruit, vegetables, cereals, pulses and oil.

Some important fruits which we get from plants are mango, banana, guava, grape, pomegranate, orange, apple, cheeku, pear, pine-apple, etc.

Cereals include wheat, rice, maize, sorghum, oat, etc.

Some important pulses are moong, masoor, arhar, gram, urad, etc.

Oils include mustard, sunflower, soyabeen ground-nut, coconut oils, etc.

Animals give us milk, meat, eggs, etc. Cows, buffaloes and goats give milk. Goats, sheep, cows, oxen, buffalos, camels and some birds are used for meat. We get eggs from hens and ducks.

Have you ever thought which parts of the plant are used as food? We eat different parts of different plants. We eat roots of some plants and stems of others. Leaves and flowers of some plants and fruits of others form part of our food.

We eat roots of carrot, radish and turnip. Stems of potato, ginger and onion are used as food. Spinach, methi and coriander leaves are used as food.

Tomato, lady finger, banana and melon are fruits of plants. Similarly we eat fruits of many other plants.

But the main constituent of our food are the seeds of plants, e.g. wheat, rice, maize, bajra, etc. are all seeds.

One very important thing is that whether food is obtained from plants or animals, before using it we should make sure that it is Halal (permitted by Allah). We use only clean and permissible food. We take care of this ourselves and tell others also to do the same.

Exercise

1. Oral Work

Answer the following questions:

1. Why is food necessary for us?
2. How do plants prepare their food?
3. What are the two main sources of our food?
4. What things do we get from plants?
5. Name any three things we get from animals.

2. Written Work

A. Answer the following questions:

1. Name any three plants from which we get cereals.
2. Which parts of plants do we use as food?
3. Name any three plants from which we get oil?
4. Name any four plants which we use as food.
5. Name any three animals which use only plants for their food.

B. Match the following:

wheat	leaf
onion	root
spinach	fruit
tomato	stem
turnip	seed

Things to do

1. Draw pictures of your favourite fruits and colour them.
2. Draw picture of any vegetable and colour it with suitable colours.
3. Collect different seeds (cereals) in small bottles and label them. Keep them in your science room or in classroom for demonstration.

4 Clothes and Their Sources

One of our very important needs only next to food is clothes. You must be knowing why clothes are necessary for us? The main purpose of clothes is covering the body. Apart from this clothes protect us from hot and cold weather. We use raincoat to protect ourselves from rain.

Have you ever thought from where do we get these clothes? And how are they prepared?

The tailor stitches clothes. He gets cloth from big rolls of cloth. These rolls of cloth are prepared in big factories.

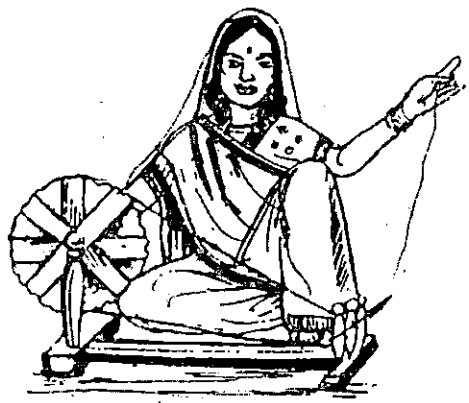
All types of cloths are prepared from fibres. These fibres are of different types. Fibres are spun into thread. Fibres can be obtained from different sources. For example, threads of cotton cloth are obtained from cotton plants grown in fields. Woollen fibres are obtained from the thick hair on the body of sheep. Similarly silk fibres are obtained from the cocoons of silk-worms. The fibres obtained from these three sources are called natural fibres. Apart from these, artificial fibres are also prepared in factories. We call them "Synthetic fibres". For Example nylon, rayon, polyester, etc.

Thread for making cotton cloth is obtained from cotton plants. Cotton is obtained from the pod of these plants. Cotton

seeds are separated from the cotton balls, and spun into thread.

These threads are weaved into cotton cloth in handlooms and power looms. The weaver also weaves cloth from these threads.

The dress prepared from cotton cloth is very comfortable. It absorbs sweat. People like to wear cotton clothes in summer.

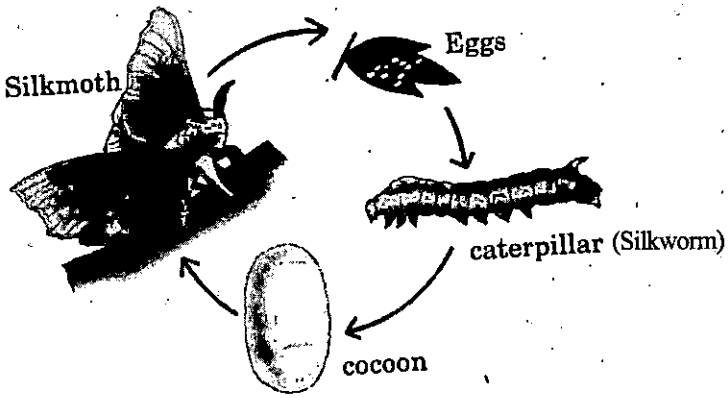


Woolen clothes are prepared from wool. Wool is obtained from sheep. Generally the thick hair on the body of sheep is sheared in the beginning of the winter season. Machines are also used for the shearing of hair from sheep's body. The hair is then spin into woollen thread.

We wear woollen clothes in winter. Woollen clothes prevent the heat of our body from going outside. We feel cold when our body heat goes out.

Silk thread is prepared from silk worms. The main food of silk worms is mulberry leaves. The silk worm covers its body with a shell which is made from a continuous flow of saliva from its mouth. This shell is actually silk fibre. This shelled worm is called pupa.

To obtain silk the pupa is boiled in water. The worm inside dies and is removed and the process of threading starts.



These days clothes made from artificial fibres are very common because these are durable and easy to wash.

Nylon, polyester and rayon are the main synthetic fibres. They are prepared from chemicals. You will study about these in next classes.

To keep our clothes good looking and long lasting we should wash them with good soap or washing powder. Put some washing powder in water and stir it properly. Dip the clothes into it and wash, rinse and dry them up in the sun.

Woollen and silk clothes should be cleaned by dry-cleaning or washed with gentle liquid soap at home. If there is a spot of dirt on clothes, it should be rubbed with dry powder or cleaned with hot water or petrol.

Clothes should be dried properly after washing. Coloured clothes should be dried in shade because the colour may fade in strong sunlight.

After drying, clothes should be ironed so as to remove wrinkles and make them shine. Proper care should be taken while ironing otherwise you might burn the clothes or get electric shock.

After ironing, clothes should be properly folded and stored in a dry place. They should be stored in a cupboard or a trunk to protect them from rats and insects.

Neem leaves and naphthalene balls are also used to protect the clothes from insects and worms.

Exercise

1. Oral Work

Answer the following questions:

1. Why are clothes necessary for us?
2. Who prepares clothes?
3. What are artificial threads called?
4. Name the natural fibres.
5. From which plant is cotton obtained?

2. Written Work

A. Answer the following questions:

1. What type of clothes do you wear in winter?
2. Name any three artificial fibres.
3. What is the method of removing spots from clothes?
4. How should woollen and silk clothes be washed?
5. How can clothes be protected from rats and insects?

B. Fill in the blanks with suitable words:

1. Coloured clothes should be dried in .....
2. We get wood from.....
3. Silk is obtained from .....
4. ..... is used for cleaning spots from clothes.

C. Put a (✓) mark for correct and (×) mark for wrong statement:

1. Clothes should be stored in a damp place after drying and ironing. ( )
2. Clothes shine after ironing. ( )
3. Clothes are not safe in a cupboard or trunk. ( )
4. Mango leaves are used to protect clothes from insects. ( )
5. We should iron and store dirty clothes. ( )

D. Match the following:

tailor	dyes cloth
dyer	grows cotton
Shopkeeper	stitches clothes
farmer	prepares cloth from thread
weaver	sells cloth in market

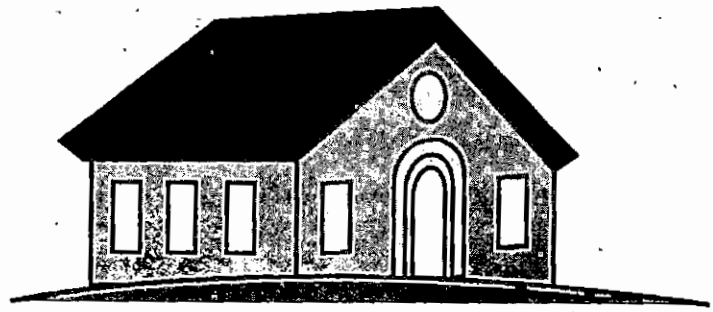
Things to do

1. Draw a picture of your favourite dress and colour it.
2. Find out how many silk, cotton and woollen clothes are there in your home.
3. Collect pieces of cotton, woollen, silk and synthetic cloth and paste them in your scap book. Label them properly.

5 Our House

After food and clothes the greatest need of man is a house. A house protects us from heat, cold and rain. Just imagine yourself without a house. You would shiver in the cold, suffer from sunburn in summer, and get wet in the rains. A house also protects our property. We also take a rest and relax in the house.

Houses are of different kinds. It is important to keep in mind the climate and environment while building a house. For example, houses built in hilly areas are different from those built in plains.

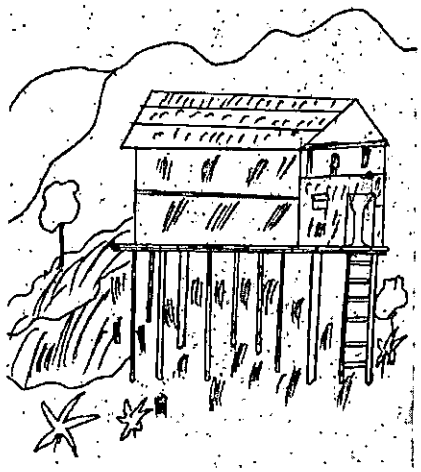


Look at the picture of this house. How is its roof built? This kind of house is built in places where snow-fall or heavy rainfall occurs. Water or snow does not stop on the roof as it is slanting. This protects the house from dempness.

Hilly areas generally witness snowfall during winter. This kind of house is built in these areas to avoid the effects of snowfall. On flat roof large mass of snow may collect and

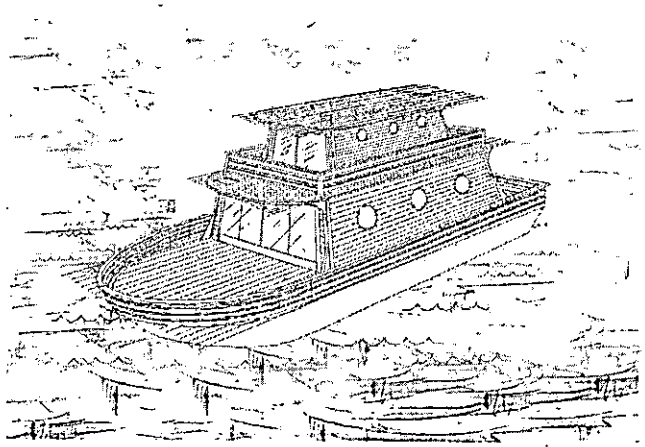
damage the roof. The roof may collapse due to the weight of the snow.

In places which are generally flooded due to heavy rains houses are built on high wooden poles.

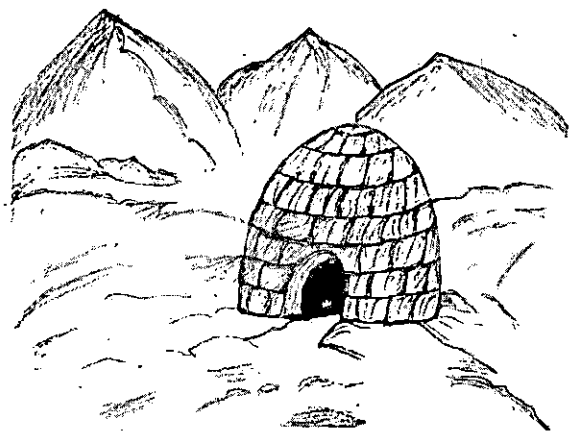


In places near the seashore houses are quite often damaged by sea-waves. As such temporary houses are built in these places. Rebuilding these houses is not very expensive.

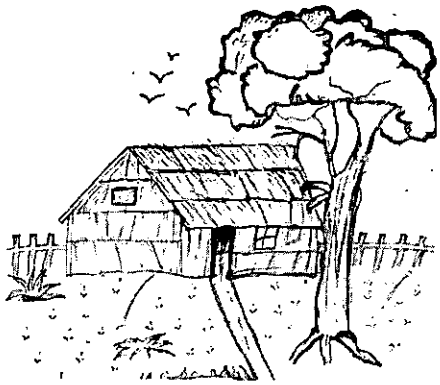
Some people have to spend long times in lakes. They build their houses in boats. Such houses are called "Houseboats."



Places near the poles are (north or south pole) are always covered with snow. People living in these places make their houses with snow. They have nothing apart from snow to build their houses. Such houses made of snow are called "Igloos."



Although nowadays in villages also brick-buklt houses are built; but generally houses in villages are mud-built. Mud-built houses are built by putting roofs of straw and grass on mud walls. The cost of building mud-built houses is very low. Therefore, they can be easily built.



In big cities there are strong multi-storeyed buildings. These buildings are built of iron rods, cement, grit, sand, and baked bricks. Bricks are made from mud. These bricks are baked in a chimney or brick

kiln. Baked bricks are not damaged by water. Doors and windows are made of wood. Grill of windows is made from iron.

Masons and labourers build houses according to the plan made by engineers. Constructing such houses is quite expensive.

Exercise

1. Oral Work

Answer the following questions:

1. Why is a house necessary for us?
2. What things should be kept in mind while building a house?
3. In which places are sloping roofs made?
4. In which places are snow houses built?
5. What are the things used in building strong houses?

2. Written Work

A. Answer the following questions:

1. What are the things required to build a mud-built house?
2. What is a houseboat?
3. What kind of houses do people living near the seashore build?
4. Why are people living in polar areas (poles) compelled to build snow-houses?

B. Fill in the blanks with suitable words :

1. In places experiencing heavy rainfall houses are built on .....
2. Houses built in boats are called .....
3. People of ..... build snow-houses.
4. Roofs of houses in hilly areas are .....
5. A house protects us from ..... heat and rain.

6

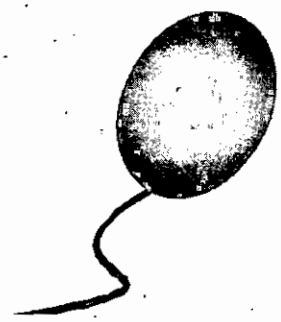
Air

Air is a great gift of Allah. Air is very essential for all living beings. Without it no living thing can survive. We cannot see it but we can feel it. Sit in front of a table fan and switch it on. You can feel air on your face or body.

Air has many properties. Let us do some experiments to know about the properties of air.

Activity 1.

Take an empty balloon. Start blowing air into it. What do you see? The balloon goes on expanding as air is blown into it. Can you tell the reason for this? Obviously the reason for



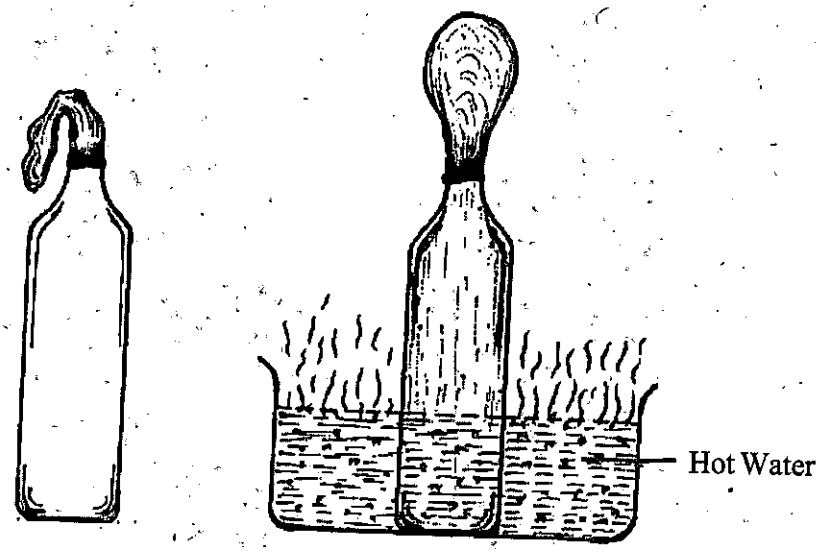
the expansion of the balloon is that air occupies space.

Similarly when an air pillow, football bladder or tube of a bicycle, or motorbike or car is filled with air it expands. Air is filled from the mouth in air pillow and with a pump in

other things. After filling the air the nozzle is tightly closed.

Activity 2

Take an empty bottle. Attach a balloon to its mouth. Keep the bottle in hot water for some time as shown below. What do you see? You see that the balloon starts flattening after some time.

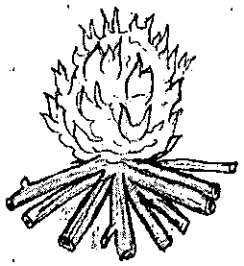


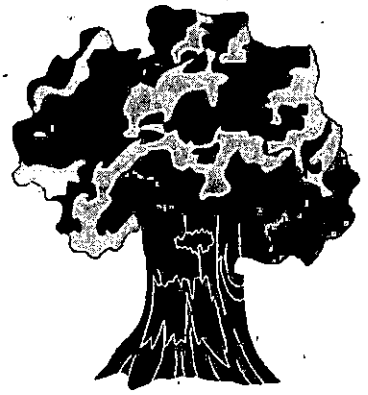
Can you say from where did air come in the balloon. The air present in the bottle expanded on getting heat from the hot water and reached the balloon. From this we conclude that air expands on heating. That is why less air is filled in the tube of a bicycle in summer. If the tube is full to the capacity, the tube may burst on expanding of air.

Air becomes light on heating and rises up. See the flame of a burning candle. What is the direction of the flame? It is always upwards. Now turn the candle upside down. What is the direction of the flame now? Its direction is still upwards.

Thus we conclude that flame which is nothing but hot burning gas always goes up.

Do you know what gases does air contain? Air contains mainly Nitrogen, Oxygen and Carbondioxide gases. Oxygen is needed for burning. Carbondioxide gas is formed when things burn with oxygen.





Plants prepare their food in the presence of sunlight. They use carbondioxide gas and release oxygen during this process.

There are two phenomena in nature which balance carbon dioxide and oxygen in the atmosphere. In one process the

oxygen is used and carbon dioxide is released whereas in other carbon dioxide is used and oxygen is released. If the level of carbon dioxide rises from a certain percentage, the air gets polluted.

In this way a balance of these two gases is maintained in the air. Cutting of trees excessively may disturb this balance, and the level of carbon-dioxide may increase. The air which contains increased level of carbon-dioxide is called polluted air.

The smoke coming out of motor vehicles also contains carbon dioxide. Therefore increased use of motor vehicles also pollutes the air. To reduce air pollution a particular kind of gas is used as fuel in vehicles. This gas is called Compressed Natural Gas or CNG.

Exercise

1. Oral Work

Answer the following questions:

1. When do we feel the presence of air?
2. Write any two properties of air.
3. What are the constituent gases of air?
4. Which gas is needed for burning fire?
5. Which gas do plants use to prepare their food?

2. Written Work

A. Answer the following questions:

1. How does the cutting of trees affect the environment?
2. What do you understand by air pollution?
3. What should we do to reduce air pollution?
4. How is the balance between the oxygen and carbondioxide content in air maintained?
5. Air occupies space. Verify.

B. Put a (✓) mark for correct and (X) mark wrong statements.

1. Air is not necessary for all living beings. ( )
2. Air is present everywhere. ( )
3. Carbondioxide gas is formed on burning of things. ( )
4. Air becomes heavier on heating. ( )
5. Cutting of plants is necessary for increasing the level (or percentage) of oxygen in air. ( )

C. Fill in the blanks with suitable words:

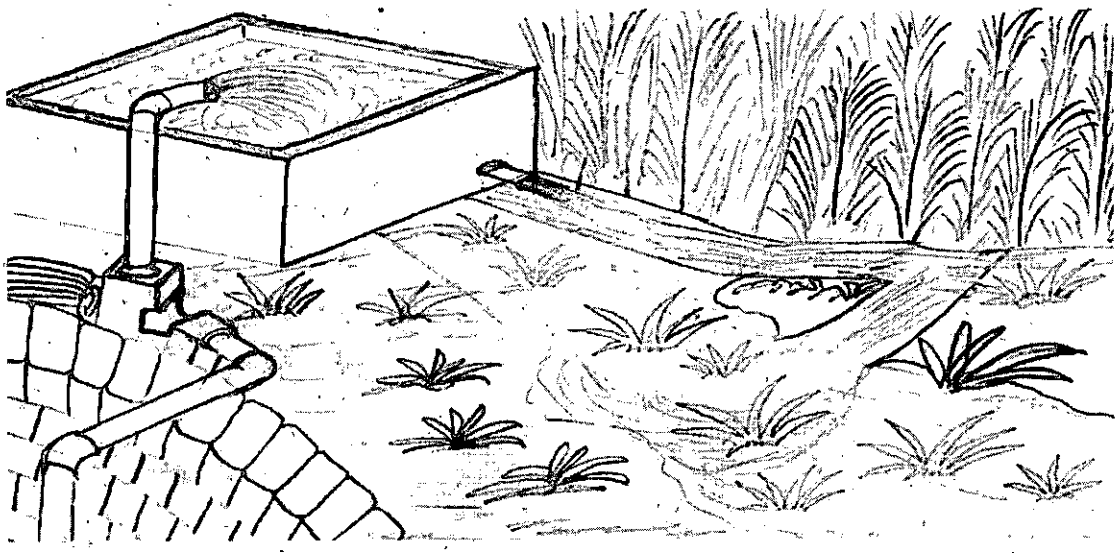
1. We can ..... air. (see / feel)
2. Air ..... on heating. (contracts / expands)
3. A balloon becomes ..... (lighter / heavier) on filling air in it.

7

Natural Resources

Allah has gifted us with life and provided all the things necessary to live.

Water is one of the most essential needs of life. No living being can survive without water. Water is also an important part of our food. Water is used for washing, bathing and cleaning. Apart from human beings, animals and plants also need water to live. All the vegetation found in the soil grows with the help of water.

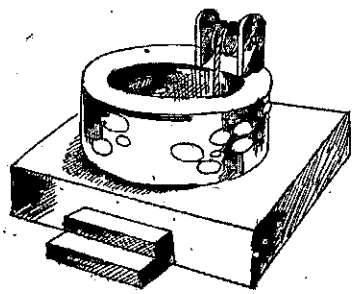


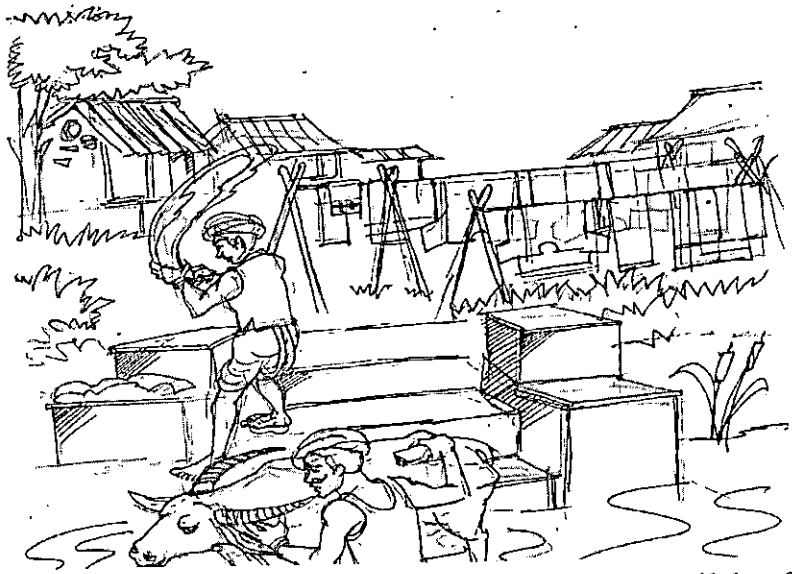
Do you know how do we get water?

What is the main source of water?

Rain is the main source of water.

Rivers, canals and ponds are filled with water. Some water is absorbed into the soil. We get this underground water through tube wells or hand pumps. This way we get water directly from nature. Things which we get directly from nature are called "Natural Resources". Water is one of the Natural Resources. We realise the importance of this natural resource when in summers water in rivers, ponds and canals dries up and the water level also goes down. We face many problems due to this condition. Hence we should be careful in using this gift of Allah. We should prevent its wastage. Protecting water from being polluted is also our responsibility. How does the water of wells, ponds, rivers get polluted? Look at the pictures below:





Another gift of Allah is soil. It is impossible for crops, plants and trees to grow without soil. Can you tell how the soil came into existence? Scientists believe that millions of years ago this earth was a ball of fire. With the passage of time it started cooling and its upper layer took the shape of a huge rock. When rain poured on these hot rocks, they began to crack and break down. This process continued for thousands of years, until these rocks change into fine sand which turned into soil. This soil, when got mixed with the dead and decaying remains of plants and animals, became fertile.

Do you know that soil is not the same at all places. In the soil of some places plants grow easily whereas in other places they do not grow easily.

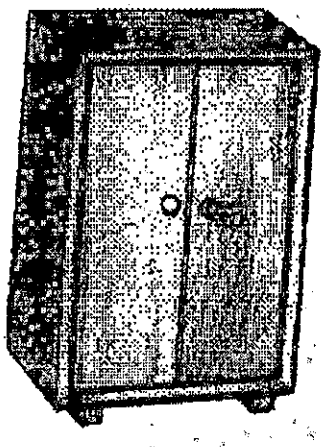
Now let us study another natural resource. Have you ever come across a path in the mountains? What did you see there?

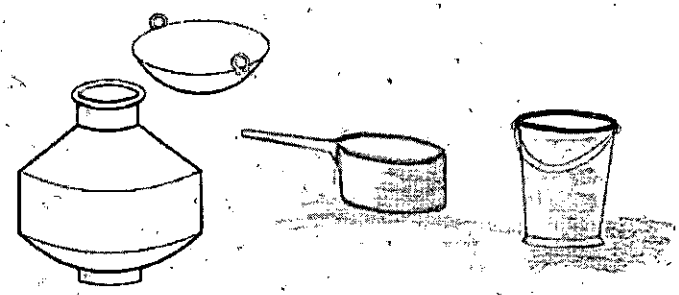
Most of the hills have forests on them. Groves of tall trees are seen spread over several kilometres of land. These plants grow on their own. Apart from hills, plains also have forests. A thick growth of plants spread over a large area is called forests.

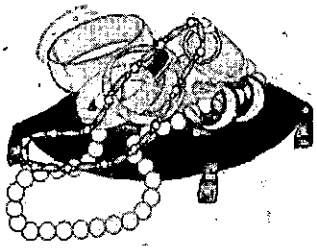
Do you know how important are forests for our life? We get wood, timber and herbs for medicines from forests. Forests also cause rainfall.

Many wild animals live in these forests e.g. Lion, Tiger, Deer, Jackal, Wolf, Bear, Zebra, Elephant. Some of these animals hunt other animals and feed on their flesh. Some eat grass and leaves.

We domesticate some animals for our needs e.g. cows goats are domesticated for milk, oxen for ploughing fields and pulling carts. We get meat, wool and leather from some domestic animals. Some animals are used to carry loads. Can you name some animals from which we get milk, meat and leather.





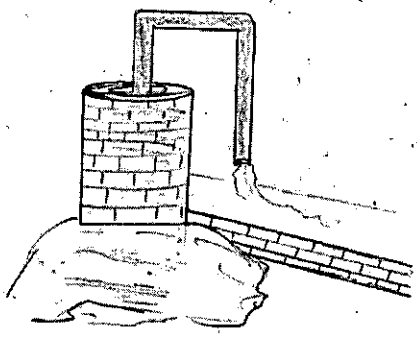


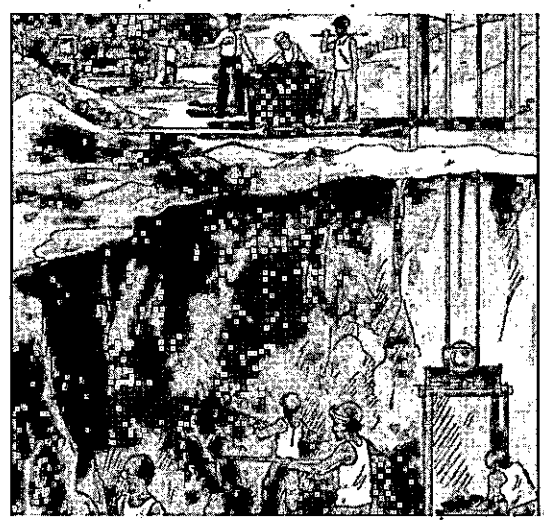
Look at the pictures above and tell which material these things are made of.

These things are made of iron, aluminium, copper, silver and gold. Iron, gold, silver, etc. are called **Metals.**

From where do we get these metals? Raw metals are obtained from the earth. The place on earth from where these metals are obtained is called a "Mine". Coal, though not a metal, is also dug from mines. Mineral, oil or petroleum is also obtained from the earth. It is later purified to get petrol,

diesel, kerosene oil, etc. Useful materials dug from the earth are called "Minerals":





All these Natural Resources are limited. So they should be used judiciously and their wastage should be avoided. We are also answerable to Allah for all these gifts. So we use them very carefully.

Exercise

1. Oral Work

Answer the following questions:

1. What are Natural Resources?
2. Name any three natural resources.
3. What are the advantages of forests?
4. Name some animals found in forests.
5. Why do we domesticate some animals?

2. Written Work

A. Answer the following questions:

1. Name any three articles made of metal.
2. How did soil take the present form?
3. Water is an important "natural resource". Justify.
4. What are mines?
5. How does river or pond water get polluted?

B. Fill in the blanks with suitable words.

(Soil, Petrol, Kerosene oil, Tube well, Well, Mines, Zebra)

1. We get the water absorbed in the soil through ..... or .....
2. We get ..... diesel and .....from petroleum.
3. It is impossible for plants and crops to grow without.....
4. Coal and other minerals are extracted from .....
5. ..... is a wild animal.

Things to do

1. Collect pictures of wild and domestic animals. Paste them on your record file.
2. What minerals are found in your area? Ask your teacher.

8

How Days and Nights are Formed

Where does the sun go by the evening and from where does it come out in the morning? This was something I could never understand. So one day I asked my teacher this question.

The teacher replied: "Come, let's play a wonderful game to understand this. A game with a ball and a torch. We will have to close the doors and windows for this:" Children closed the doors and windows and the room became dark.

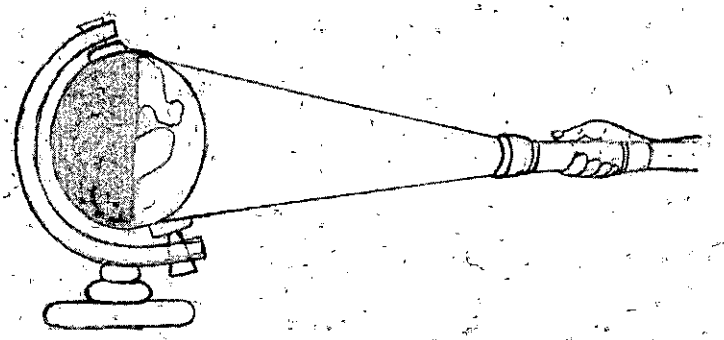
All of us were curious about the game of torch and ball.

The teacher kept the ball in the centre of the table, and switched the torch on from one end of the table. We moved nearer to the table.

"Can anyone of you say on which part of the ball is the torchlight falling"? We all raised our hands to answer. Rehan said: "The side of the ball facing the torch is recieving light."

"The other side of the ball is dark. Why?" asked the teacher. "Because light is not falling on this side," answered Ahmad. The teacher turned the ball slowly and again asked, "Is the light still falling on the same side of the ball". We all said, "No."

Do you know that Globe is a model of the earth?



After this the teacher replaced the ball with a globe and repeated the act.

He then explained that the shape of the earth is like a globe. The earth rotates on its axis and completes one rotation in 24 hours. This rotation causes Day and Night. The parts of the earth which face the sun get sunlight and thus have day. The parts away from the sun are dark and thus have Night.

Do you know that the earth rotates on its axis from west to east. Apart from rotating on its axis the earth also revolves around the sun and completes one revolution in 365¼ days. This period is called one solar year. This revolutionary movement of the earth causes "Seasons". During this

movement the earth sometimes goes closer to the sun and sometimes its northern part tilts towards the sun and at others its southern part tilts away. Which season will be there in the part of the earth which is closer to the sun? "Summer." You are right, it will be hot or the summer season. What season will be there in parts of the earth which are far from the sun? "Winter season." Right! Correct answer! During which months do we have the summer season in our country?

April, May, June, July and August. These are summer months. In which months do we have the winter season. November, December, January and February. These are popular winter months.

Exercise

1. Oral Work

Answer the following questions:

1. On which side of the ball was the torchlight falling?
2. What is a model of the earth called?
3. Why was the other side of the ball dark?
4. How many hours does the earth take to complete one rotation on its axis?
5. Due to which movement of the earth are Days and Nights formed?

2. Written Work

A. Answer the following questions:

1. Due to the rotational motion of the earth Days and Nights are caused. How?
2. The revolutionary motion of the earth causes seasons. How?
3. In which months does the summer season occur?
4. Which are the months of the winter season?

B. Fill in the blanks with suitable words:

1. The earth completes one revolution around the sun in ..... days.
2. A year has ..... days.
3. Seasons are caused due to ..... of the earth.
4. The shape of the earth is like a .....
5. The earth rotates from ..... to ..... on its axis.
6. The earth looks like a .....

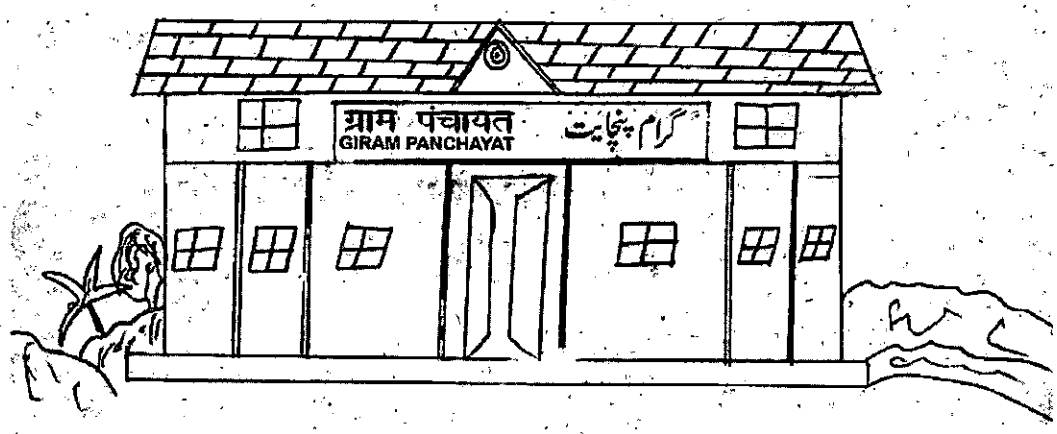
Things to do

1. Drawa a picture of a globe.

9

Village - Panchayat

A larger section of our population lives in small villages. The organisation which looks after the needs and activities of the village people is called "Gram Panchayat."

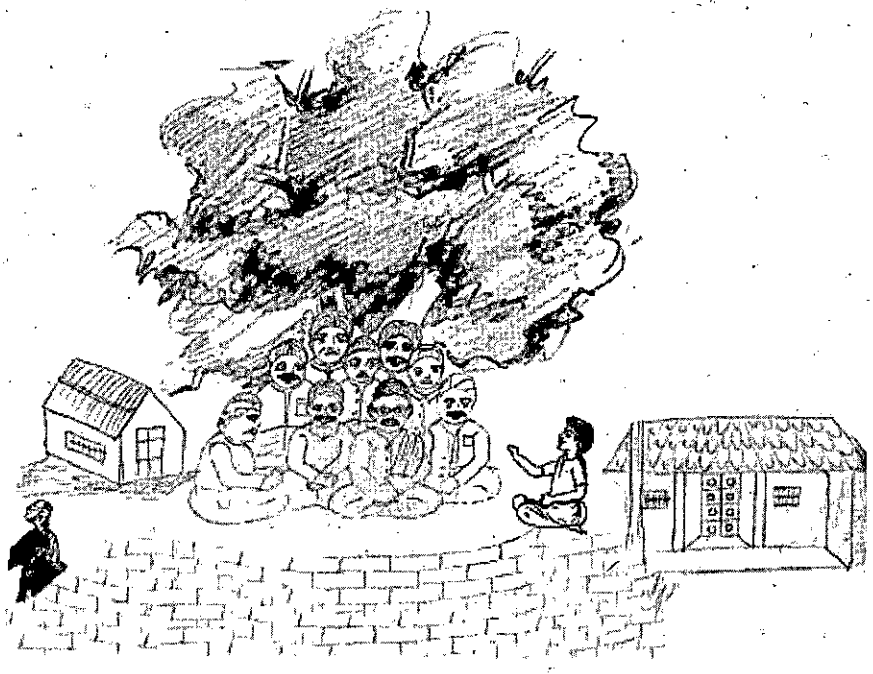


Gram Panchayat is an institution comprising members elected by the people of the village. It consists of 8 to 15 members, in which there should be a woman member and a member from the scheduled caste or tribe.

The election of the Gram Panchayat is held every five years. Every man and woman who lives in the village and whose age is 18 years or above can cast his vote or contest for the election. In this election people also elect the

"Gram Pradhan" along with the required members. He is called the "Sarpanch" or "Gram Pradhan".

Members of the Gram Panchayat meet from time to time to discuss and find solutions to the village problems. Disputes between village people are also solved in these meetings.



Gram Panchayat has the follwing responsibilities.

☆ Construction of roads in villages.

☆ Cleanliness of roads and streets. Construction of drains for disposal of waste water.

☆ Provision of drinking water. Digging of wells or construction of a tank so that water is supplied to every house.

☆ Proper arrangement for cleaning water by putting pottasium permagnate or chlorine into the well or tank.

Creating awareness among the villagers about the importance of using clean and pure water.

☆ Opening of small dispensaries where common diseases can be treated. These dispensaries are called primary health centres (PHCs).

☆ Looking after schools. Conducting classes for adults. These classes are generally conducted at night. These are called "Adult Education Centres."

All these activities require money. Government provides fund to the Gram Panchayat for these activities.

Exercise

1. Oral Work

Answer the following questions:

1. What is the institution which looks after the needs and activities of the villagers?
2. How many members are there in a Gram Panchayat?
3. After how many years is the Gram Panchayat elected?
4. Can you vote for the Gram Panchayat? If not, why?

2. Written Work

A. Answer the following questions:

1. Who provides fund to the Gram Panchayat?
2. Who governs the members of the Gram Panchayat?
3. The representation of which class of people is necessary in the Gram Panchayat?
4. What facilities does the Gram Panchayat provide for the village?
5. What are the two conditions necessary to be able to vote for the Gram Panchayat?
6. What are the responsibilities of the Gram Panchayat?

B. Fill in the blanks with suitable words:

1. Every person who is ..... years or above can cast his vote.
2. The number of Gram Panchayat members is eight to .....
3. The Gram Panchayat is elected after every .....
4. The Gram Panchayat should have at least one member from SC or ST and one..... member.

C. Put a (✓) mark for true and (X) mark for false statements:

1. Sarpanch is elected by Gram Panchayat members. ☐
2. Girls and boys below the age of 18 cannot contest elections. ☐
3. The number of Gram Panchayat members is from 16 to 20. ☐
4. The Gram Pradhan is also called "Sarpanch". ☐
5. Any person whose age is above 18 years can contest elections. ☐

Things to do

1. Visit the primary health centre of a nearby village and write down a detailed account of your visit.

10

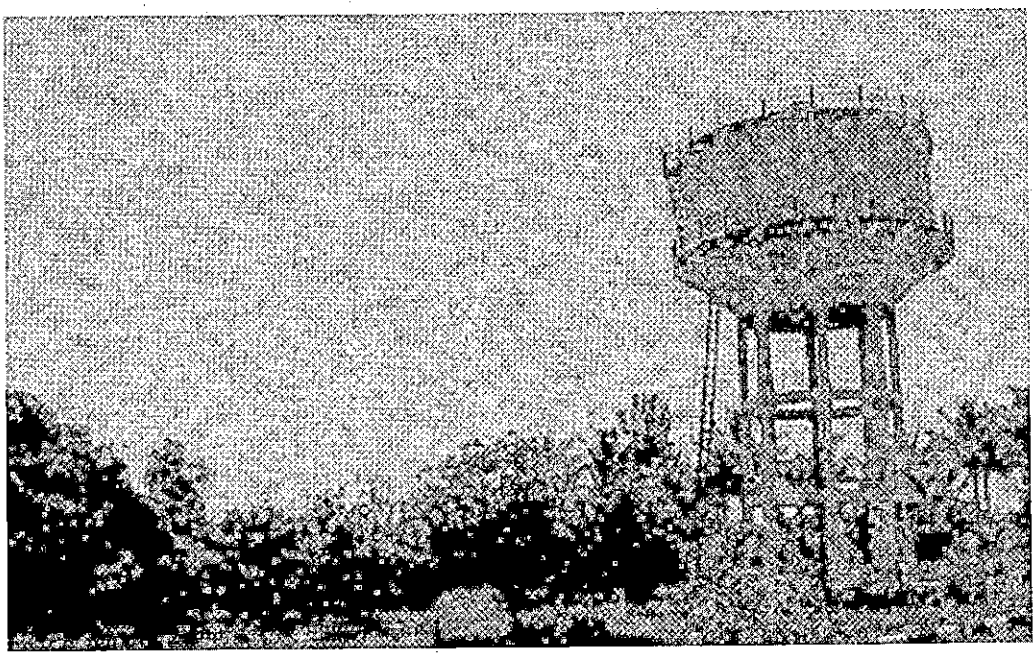
Municipal Committee

Have you ever seen some labourers doing cleanliness work in your locality in the morning. Who sends these people for this work? In fact these people are servants of the Municipal Committee. There is a municipal committee in every town and city. It looks after the various needs of the poeple. Today we shall study how a municipal committee is formed, what it does and from where it gets the fund.

Some of the important responsibilities of a Municipal Committee are construction of roads, their maintenance

(repairing on having been damaged), naming them, construction of drains alongside roads for proper disposal of used water from houses and lightening of streets.

The Municipla Committee is also responsible for installation of electric poles and tubelights on roadside, providing clean and pure drinking water to citizens, building of water tanks to supply water in houses. Installation of handpumps in every locality so that people can use this water in case running water does not come.



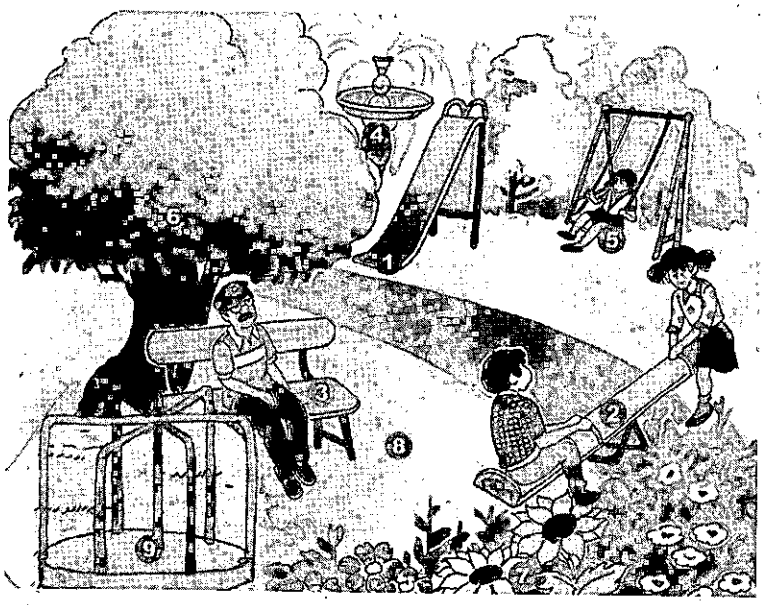
Do you know that the head of the Municipal Committee is called Chairman?

Municipal Committee also arranges public toilets to keep the urban environment clean. These toilets can also be used by people who do not have their personal toilets.

For the treatment of citizens Municipal Committee

establishes hospitals. Free treatment is provided to patients in these hospitals, or a very nominal fee is charged. These hospitals should be well maintained so that maximum people can benefit from them.

For the beautification of the city and recreation of people, parks are necessary. Hence the Municipal Committee also establishes and maintains parks.



Establishing primary schools for education of children, keeping record of births and deaths, giving permission to people for building new houses and many other such jobs are the responsibilities of a Municipal Committee. For all these jobs the Municipal Committee needs money. From where does this money come? This money is provided to the Municipal Committee by the people living in cities in the form of tax; for example, house tax, land tax, water tax, levy on goods brought from outside the city, road tax for vehicles, etc.

People elected to the Municipal Committee are called "Municipal Councillors. They are elected by local people. All men and women of the age of 18 years and above are eligible to cast their votes. The population of the city is devided in several groups called wards. One member is elected from each ward. These members elect a head from among themselves. Apart from this, various committees are formed to manage different tasks. Every committee has an incharge. These committees include education committee, health committee, construction committee, etc.

A Municipal Committee is elected every five years.

We should cooperate with the functioning of the Municipal Committee and pay our taxes in time.

Do you know that in big cities like Delhi, Mumbai, Kolkata and Chennai, there is a "Municipal Corporation" in place of a Municipal Committee. Its head is called "Mayor". Its members are called corporators.

Exercise

1. Oral Work

Answer the following questions:

1. After how many years are the members of the Municipal Committee elected?
2. Can you cast your vote in this election? If not, why?
3. How can you help the Municipal Committee to function properly?
4. How many members of your family are eligible to cast their votes in the election of the Municipal Committee?

2. Written Work

A. Answer the following questions:

1. What is the head of a Municipal Committee called?
2. What are the main functions of the Municipal Committee?
3. What are the sources of income of the Municipal Committee?
4. What is the difference between a Municipal Committee and a Municipal Corporation?
5. What are the methods adopted by the Municipal Committee to provide clean drinking water to citizens?

B. Put a (✓) mark a true and (X) mark a false statement.

1. The minimum age to cast vote in the election of Municipal Committee is 20 years. ☐
2. In Delhi there is a Municipal Committee. ☐
3. Head of the Municipal Committee is called Mayor. ☐
4. Women are not eligible to cast vote in elections. ☐
5. People elect the members of Municipal Committee. ☐

Things to do

1. Which finger is marked after casting of vote in the elections of Panchayat or Municipal Committee and why? Find out from your teacher or parents.

11

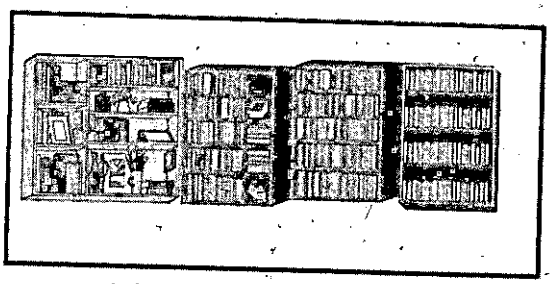
Our School

My name is Khalid Ahmad. I am a student of Class IV. Yesterday I took my freind to my school to show it to him.

Our school building is three-storyeed. There are Thirty classrooms in it. Every room has doors, windows and ventilators. There is a verandah in front of the rooms. Apart from these, there are some other rooms also. For example, Principal Room, Staff Room, Library and Computer Room. Every room is tidy and well decorated. We take good care of the cleanliness of our room.

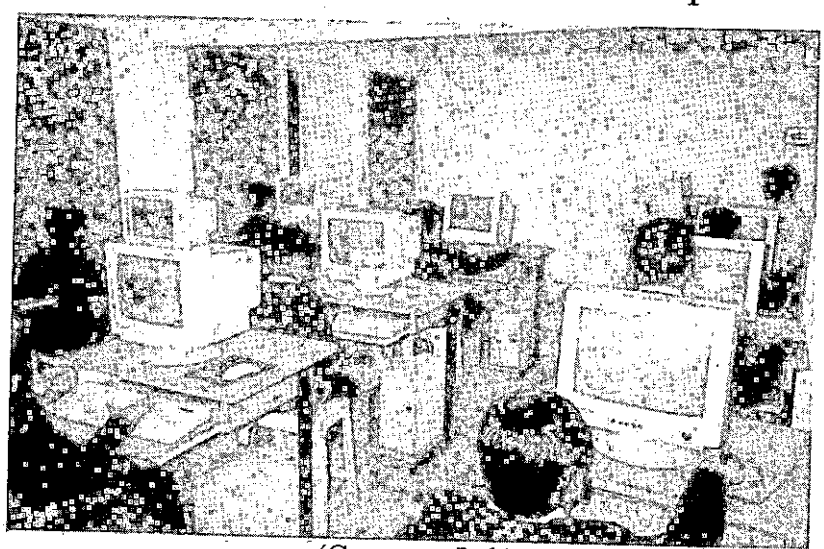
The library of our school is in a big hall. There are thousands of books properly arranged in shelves. Books are kept sabjectwise. The shelves are labelled. Books are numbered, and registered. It is very easy to take out a book if its number is known. One of our teachers maintains this register. There is a librarian also to help him. We study in the library maintaning pindrop silence.

Our library also has subscribed magazines, story books and newspapers for children. Apart from getting news we also get general knowledge from newspapers.



(Library & Reading Room)

There is a computer lab in our school. It has twenty computers. Two students work on one computer at a time. First our teachers teach us how to work on the computer, then we practise it on the computer. In the computer room also we work silently. We neither talk, nor make a noise in this room. We work very carefully. The computer and its parts are very delicate. They can be damaged if dropped down or mishandled. We keep our shoes outside the computer room so that dirt is not brought there. Dirt is very harmful to computer.



(Computer Lab)

I also showed my friend the science lab. It is very big and spacious. There are many cupboards in it. Science instruments and other necessary things are kept in the cupboards. There is a long table in the centre, with stools all around it. Students sit on them and do experiments. There are many charts related to science in the science room. There are many science related models too. Plant and animal specimens are kept in glass jars. These specimens are kept in a particular liquid known as formoalin to avoid being spoilt.

(Science Lab)

We go to the school to gain knowledge. Besides knowledge we also learn culture and etiquette. In the school campus and classrooms many sayings from the holy Qur'an, hadith and great men are written. Informative excerpts are also written on the noticeboard. Many maps and charts are also there. My freind, Hamid, was glad to see all these things.

In the school we also get a chance to participate in different sports like football, volleyball, cricket, kabaddi, etc.

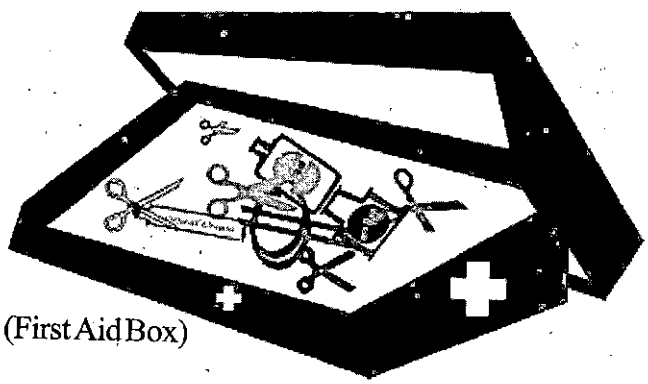
Our teachers have a very loving and caring attitude towards us. We also pay them respect. We do this because we know that teachers deserve respect the most, only next to our parents. Parents bring us up and provide us with our needs. But teachers teach us and make us good human beings. We can

never repay our parents and teachers for what they have done for us.

In our school there is a "Studens Union" also. Our principal is the patron of this union. The union works under his guidance. This union does many social activities like campaigning for tree plantation, cleanliness of the school and its surroundings, helping the poor, etc.

We also campaign for creating an awareness among the people towards their health and hygiene. Medical camps are also organised in our school. Medical checkup of not only students but also people from outside is done in these camps. Reknowned doctors of the city devote their whole day to the checkups of students and other people. If any student needs further treatment, his gaurdians are informed.

There is a First Aid Box in our school, which has essential medicines, cotton, scissors, dettol, antiseptic cream and solution, etc. If any student gets hurt or has a wound, he is instantly treated. Our science and P.T. teacher has taught us properly how to give first aid and we make use of it whenever needed.



(First Aid Box)

Exercise

1. Oral Work

Answer the following questions:

1. What is the name of your school? How many students study in it?
2. How is the building of your school and how many rooms are there in it?
3. How do you like your school?
4. How does the day start in your school?
5. What items are presented in the weekly programme?

2. Written Work

A. Answer the following questions:

1. What other activities apart from studies are carried out in your school?
2. What activities do the Student's Union do?
3. Why is a medical camp organised in the school?
4. Which of your favourite books are there in the library?
5. What do you do in the interval?
6. What other things do you want to see in your school?

B. Fill in the blanks with suitable words :

1. After prayer ..... give us some important instructions.
2. In the library we study .....
3. In the school along with knowledge we learn culture and .....
4. We pay ..... to our teachers.
5. Instant ..... is provided to a student who gets hurt.

Things to do

1. Draw a picture of your school and colour it.
2. Write down the names of your principal and teachers.

12 Gandhi Ji

Gandhi Ji's full name was Mohan Das Karamchand Gandhi. He was born on 2nd October 1869 at Porbandar in Gujarat. His father's name was Karamchand Gandhi. His mother, Putli Bai, was a simple religious woman.

His education started in Rajkot. He was a hardworking student. He was very shy and quiet in his childhood. He went to England for higher studies. He came back to India in 1891 with a degree in law from England. He started his legal practice.

In 1893 Gandhi Ji went to South Africa. There he stayed for about 20 years. In those days, the Indians and the Black people were ill-treated by the Whites i.e. the English. Gandhi-ji raised his voice against this, wrote articles, tried to convince the people that all men are equal. Nobody has the right to ill-treat others or look down upon anyone. The Indians and the Black people liked these initiatives of Gandhi Ji very much and supported him.

In 1915 Gandhi Ji came back to India. India was slave to the British rule at that time. Gandhi Ji started a movement to free his country from the British rule. He took the path of non-violence or Ahinsa. He started the "Civil Disobedience Movement" and asked the people not to obey laws made by the

British government.

When the British levied taxes on common items like salt, Gandhi Ji started a movement to make salt. He along with 69 people went from Ahmedabad to Dandi covering a distance of 380 kilometers on foot. This is called the famous "Dandi March". He broke this law peacefully by making salt from sea water in Dandi.

Gandhi Ji also worked hard to promote Hindu-Muslim unity. One year before independence when communal riots broke up in Bengal, Gandhi Ji went from door to door to convince the people to maintain peace and be united. This great son of India was assasinated on 30 January 1948 while he was going to attend a prayer meeting. Due to his great sacrifices Gandhi Ji is remembered as "Baba-e-Qaum" (Father of the Nation) or "Bapu Ji".

Exercise

1. Oral Work

Answer the following questions:

1. What was the full name of Gandhi Ji?
2. When and where was he born?
3. Where did he go for higher education?

4. What work did Gandhi Ji do in South Africa?

5. For how many years did he stay in South Africa?

2. Written Work

A. Match the following:

2nd October 1869	Journey to South Africa
1893	Death of Gandhi Ji
1915	Birth of Gandhi Ji
30th January 1948	Return from Africa

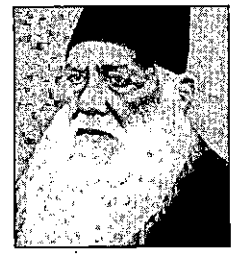
B. Fill in the blanks with suitable words:

1. Initial education of Gandhi Ji took place at .....
2. Gandhi Ji stayed for about ..... in South Africa.
3. To break the 'Salt law' Gandhi Ji travelled up to .....
4. During the ..... movement he asked people to disobey laws laid down by the British.
5. Gandhi Ji was assasinated on ..... while going to attend a prayer meeting.

Things to do

1. What were the different movements organised by Gandhi Ji for the independence of the country? Find out from your teacher.

13



Sir Syed Ahmad Khan

Sir Syed Ahmad Khan was born in 1817 at Delhi. His name was Syed Ahmad. He gained the knowledge of Arabic, Persian, Maths and Medicine. With the confinement of Mughal Sultanate to Delhi Sir Syed took up a job in the British government.

The Indians fought a war for independence against the British rule in 1857 but lost it. This war was headed by Bahadur Shah Zafar. Hence the British started discriminating and illtreating the Muslims to a great extent. This created a feeling of anger and hatred against the British in the hearts of Muslims. As a result they started boycotting British schools in India. This deprived the Muslims of knowledge of science and the English language.

Within a few years Muslims lagged behind other communities in the field of education. Sir Syed Ahmad Khan felt that this backwardness is a result of their distance from modern education. If this phenomenon continued, the Muslims would become further backward. Hence he started struggling to spread modern education among the Muslims.

Realising the need for modern education among the Muslims, Sir Syed established a college in Aligarh and named it Muslim Anglo Oriental College. Establishing a college was not an easy task those days. A lot of money was needed for this.

He worked hard to raise funds. He toured different places. Though Muslims strongly opposed him, he did not lose courage. He was defamed but he tolerated all this and

Aligarh Muslim University (A.M.U.)

continued raising funds for the college.

Sir Syed felt that the college in Aligarh could not fulfil the educational needs of Muslims all over the country. He therefore called an educational conference in 1886, emphasised the need of modern and higher education and the establishment of colleges in many other places. Consequently

colleges were established at other places also. The college of Aligarh also developed very soon and became a university. It was renamed as "Aligarh Muslim University." These efforts of Sir Syed Ahmad Khan inspired the Muslims to acquire modern education.

Sir Syed Ahmad Khan also wrote articles in simple language to create awareness. The evil practices present in the Muslim community were highlighed in these articles in such a way that people might give them up.

Sir Syed worked hard to spread education among Muslims and to rid them of evil practices. As a recognition of these efforts Sir Syed got the tittle of "Khan" first and then "Sir".

Exercise

1. Oral Work

Answer the following questions:

1. Why did the Muslims boycot English schools?
2. Who headed the war of 1857?
3. What was the result of defeat in this war?
4. What was the result of ignoring modern education?
5. What did Sir Syed do to spread modern education among the Muslims?

2. Written Work

A. Answer the following questions:

1. Which college did Sir Syed open in Aligarh?
2. What hardships did he face in establishing this college?
3. How did Sir Syed raise funds for establishing the college?
4. What did he do to open other colleges like the college in Aligarh?
5. What things has Sir Syed mentioned in his articles?

B. Fill in the blanks with suitable words:

1. Sir Syed was born in the year .....
2. The first war for independence was fought in ..... by the Indians against the British.
3. Sir Syed established ..... in 1875.
4. The government conferred the title of ..... as a recognition of his efforts in the field of education.
5. Many Muslims strongly ..... Sir Syed.

Things to do

1. Paste a picture of Sir Syed in your note-book.
2. Ask your teacher some more things about the Revolt of 1857.

14

Tipu Sultan

Tipu Sultan was the ruler of Mysore. He was very brave like a lion. He loved his country very much. Hence when the time came to safeguard the country, he laid down his life fighting for it.

Tipu Sultan's name was Fatah Ali. He was born in 1750 in Mysore. At that time his father Hyder Ali was the king of Mysore. Hyder Ali was an ordinary soldier, who became the king after gradual promotion. The British were taking control of the various provinces at the time of Hyder Ali. They also had an eye on the province of Mysore but their plan could not be fulfilled in the time of Hyder Ali. Hyder Ali fought many battles against the British. Tipu, who was about fifteen years old then, also participated in these battles. Thus Tipu became a brave warrior and also got familiar with war tactics.

In 1782 Tipu became the king of Mysore after the death of Hyder Ali. He spent his life fighting the British to protect his country. He loved freedom. His famous saying is: "One day life of a lion is better than living hundred days like a wolf."

When Tipu Sultan was the king of Mysore, the Nizam ruled over the Deccan on one hand and on the other there were the Marathas. Bihar and Bengal in north India had already come under the British rule. The Nawab of Awadh became puppet in the hands of the British. Tipu Wanted that the Nizam, Marathas and he himself would fight together against the British, so that they could be easily defeated. But due to some reason the Nizam and Marathas were not ready for this. At last Tipu had to face the British all alone. He fought two battles against the British. He died fighting the second battle. This battle was fought in 1799.

Tipu not only protected his country throughout his life but also worked for its welfare and development. His subjects were well off. He took a great care of both his Muslim and non-Muslim subjects without any discrimination.

Tipu Sultan was a true patriot, good Muslim and excellent ruler.

Exercise

1. Oral Work

Answer the following questions:

1. Which province did Tipu rule?
2. When and where was Tipu born?
3. What was his real name?
4. What was his father's name?
5. When did Hyder Ali die?
6. Who ruled Deccan Tipu was the king of Mysore?

2. Written Work

A. Answer the following questions:

1. Along with whom was Tipu planning to defeat the British?
2. How many battles did Tipu fight against the British?
3. What did Tipu do for the welfare of people?
4. When did he die?
5. Why had Tipu to fight alone against the British?

B. Fill in the blanks with suitable words:

1. Tipu Sultan was a ..... ruler.
2. Hyder Ali became the ..... of Mysore after being promoted from an ordinary soldier.
3. One day life of a ..... is better than living hundred days like a wolf.
4. Tipu Sultan died in .....
5. Tipu started participating in battles from the age of .....

Things to do

1. Find out from your teacher the names of people who participated in the freedom struggle.

15

Jagdish Chandra Bose

Jagdish Chandra Bose was one of the great scientists of India. He was born in Bengal on 30th November 1858. He was interested in living beings, particularly plants, since his childhood. He very often used to enquire about them from his father. Some times his father would answer him and at others he would ask him to find the answers from books. This created in him the habit of finding the answers to his questions himself.

Jagdish Chandra Bose recieved his early education in Kolkata. Luckily he got good teachers who taught scientific facts through practicals. This increased his interest in science and research. He went to England for higher education and was admited into the famous Cambridge University.

On completing his education he returned to India and was oppointed professor of medicine in Presidency College of Kolkata. He taught the students with interest and hard work and did research work at his free time. He established a laboratory in the college with his personal money. Afterwards he also established a science centre, which is known after his name.

Jagdish Chardra Bose became famous in India and world over for his experiments which he performed on plants.

He established the fact after experimenting that plants are also living beings, and get affected by hot and cold weather. He proved this fact through his own instruments. Other scientists also approved of his findings.

Our country received world wide fame due to the reaserch work of Jagdish Chandra Bose. His articles were published in famous science magzines. He was named member of various science societies. The Royal Society of England invited him for a lecture.

In 1912 Jagdish Chandra Bose established an institute for the promotion of science in Kolkata which was named "Bose Research Institute." This great scientist died on 23rd November 1937 at the age of 79.

Exercise

1. Oral Work

Answer the following questions:

1. When and where was Jagdish Chandra Bose born?
2. What interested Jagdish Chandra Bose during childhood?
3. Where did he he get his early education?
4. Where did he recieve higher education?

2. Written Work

Answer the following questions:

1. For what achievement was Jagdish Chandra Bose famous?
2. What did he do to promote scientific research?
3. What fact about plants did Jadgish Chandra Bose reveal?
4. Which institute did he establish for scientific research?
5. What honours did Jagdish Chandra Bose recieve?

Things to do

Find out facts about some other Indian scientists from your teachers or books.

16 The Story of Fire

Man learns things by doing experiments. He has discovered various things through experiments only. In early days man's knowledge was very limited. He lived in forests and used to eat wild fruit and raw flesh of animals. He was not familiar with the use of fire at that time. But gradually he learnt about fire and started using it for different purposes. How did this happen? Let us find out.

In very hot days during summers due to strong winds trees in the forests would rub against each other and catch fire. Along with animals man also would run away from this fire. Gradually man became used to this fire and his fear of fire reduced. He gathered courage and came close to it. He felt its heat. Thus he learnt how to use fire to protect himself from cold.

Now he started feeling the need of fire. Very soon he also learnt that the fire could be kept burning by putting dried twigs and leaves into it.

Gradually man also came to know other advantages of fire. Once he was eating flesh sitting close to fire. A piece of flesh fell down in the fire. He ate this piece of flesh with hesitation. He was astonisted because the piece of flesh had

become soft and tasty. This way man came to know that flesh becomes soft and tasty when roasted in fire.

As time rolled on, man learnt different things. He started making pots with clay. He saw the use of fire here also when by chance a pot of clay fell into the fire. After the fire extinguished he saw that the pot did not break and became stronger and was not affected by water now. Thus he learnt one more use of fire.

To keep the fire burning continuously was a difficult task for man. Rains would do away with fire. Now to get fire again man would have to wait until the trees would catch fire again as he knew to make fire from fire only uptil now. He continued trying to get fire himself.

One day he saw when two stones are struck against each other sparks are produced. He kept dry grass and close to it struck two stones against each other. The grass caught fire. Thus he learnt how to make fire by sparks.

But to learn the production of fire and its uses took hundreds of years. Today we can make fire very easily by rubbing a match stick or by a lighter. But remember this fire is lit only by rubbing. Gradually man progressed further and learnt how to use fire for gaining energy.

We get many advantages of fire, but a little carelessness may bring immense damage from fire. Therefore we should be very careful while using fire. Fire should never be lighted close to things which can catch fire vigorously e.g. petrol,

diesel or gas cylinder. We should also be careful while lighting a match-stick, and keep it away from our body or clothes.

Exercise

1. Oral Work

Answer the following questions:

1. What type of food man ate before the discovery of fire?
2. How did man see fire being produced in the beginning?
3. For what purpose did man use fire first of all?
4. What method was adopted to keep fire burning?
5. How did the flesh taken out from fire tasted?

2. Written Work

A. Answer the following questions:

1. Write down three uses of fire.
2. From what thing is fire produced?
3. What precautions should we take while using fire?
4. What change occured in a clay pot when it fell into fire?
5. What care is essential while lighting a match-stick?

B. Fill in the blanks with suitable words:

1. Man learns from ..... .
2. Clay pot becomes ..... when baked in fire.
3. When a stone is hit hard on another stone ..... are produced.
4. We should be ..... while using fire.
5. Today we use .....to get fire.

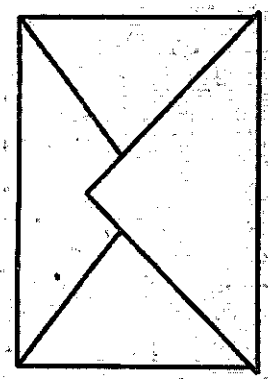
Things to do

1. Draw a picture of a match box or a lighter and colour it.

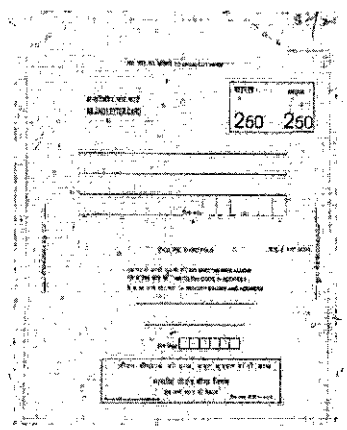
17

Means of Communication

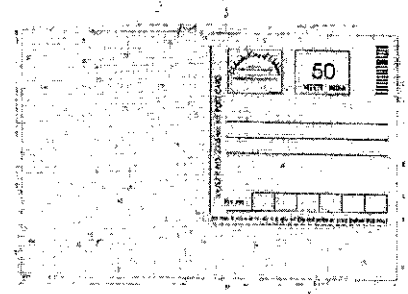
To send a message from one place to another we can take the help of a postoffice. Through it we can send letters, envelopes, books, money or parcels to persons living in faroff places.



Envelop



Inland Letter Card

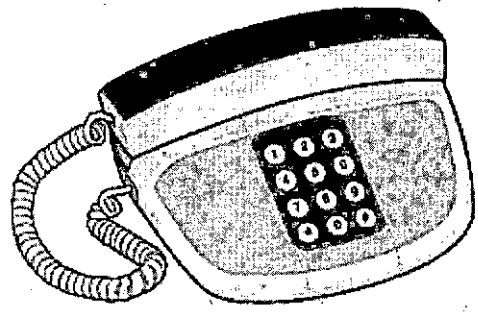


Post Card

But if we have to deliver a message in a very short time we make use of telegram.

Through telegram we can send our message to other persons but can not recieve his message. In fact through telegram we can transfer our message to a different place in the form of a few words only. Written message cannot be sent. For sending written message in a short time courier services

are used. Through these we can also send parcels. For the exchange of messages between two persons telephone is used. On telephone we can easily talk to each other.



Telephone services are of three kinds. With a "Local Phone" we can talk to a person living in the same locality. These days the whole state is covered by local calls.

Outside the state but within the country STD calling facility is used. If you want you can avail yourself of this facility in your phone.

If your father or any other relative is staying outside India and you want to talk to him, you cannot talk with the STD phone. For this international communication I.S.D. facility is needed. This facility can also be availed of on your personal phone. But generally people do not take this facility at home, because they talk for larger periods of time after having this facility at home. This may increase the phone bill. Therefore people prefer to do it at the P.C.O. which means "Public Call Office." From this phone Local, STD and ISD

calls can be made. One has to make payment as per the bill for this.

There should be limited talking on the phone. Irrelevant talking should be avoided. Very often people make very long talks on phone with their freinds. This is not a good habit. For starting conversation on phone first of all one should convey salam and tell his/her name. If by mistake a call is made on a wrong number, one should apologise.

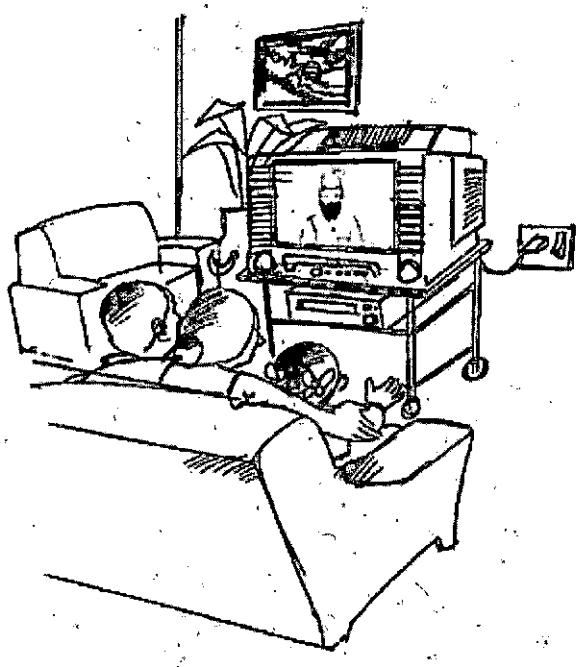
Mobile phone is also a type of phone. Through this phone we can talk to each other while moving also. There are many other features in a mobile phone. You can find out these features and functions from people who use the mobile phone.

While driving a car or scooter one should not use the mobile phone. It may lead him to an accident.

Today we have many means to keep ourselves aware of our surroundings. One of them is "News paper." Papers can be used for knowing detailed news. Pictures of prominent

incidents are also printed in the newspaper.

But newspapers contain previous day's news. If you want to keep in touch with the latest news, there is the Transistor and Television for you. On transistor or radio you can only hear the voice, but on television pictures of important incidents can be seen too.

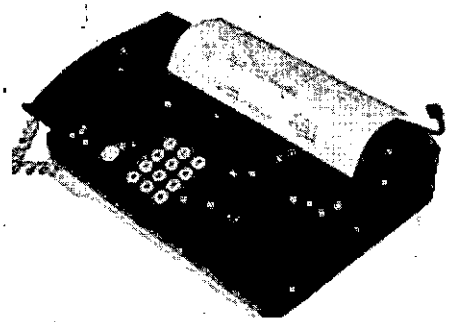


On transistor and television we get news updates from time to time of important events like the programmes going on in Delhi on 15th August or 26th January. Other important events or accidents, discussions going on in the parliament, cricket or other important sports can be seen or listened to live.

Thus people around the world have come very close to one another. Now this vast universe has shrunk for us and become like a village. That is why people have started calling this world a "Global village."

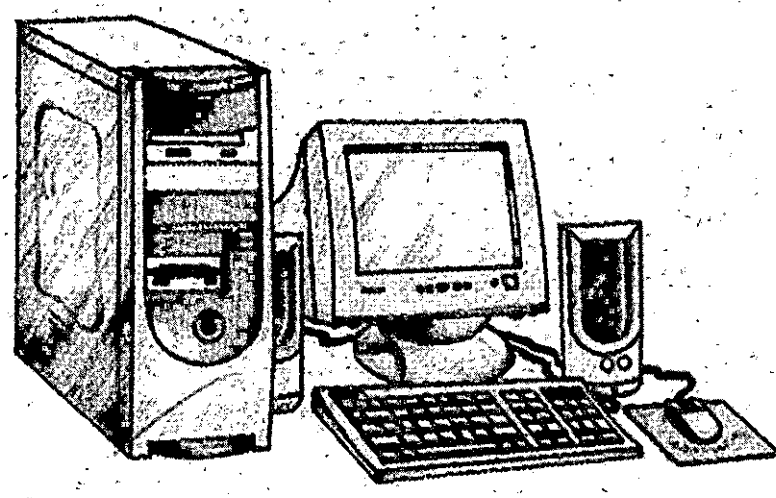
Another means of communication, like mobile, without wires is "wireless." This is used very much in police and defence offices. Through this policemen and defence personnel staying at different places give important information to their officers and take instructions from them.

These days wireless (Waky-talky) is also used in Railways. Station master, driver and gaurd communicate with each other with this.



You must have heard about FAX. This is attached to

Telephone. Through this we can send written message from one place to another, within no time. You insert a paper in the FAX machine at one place and another paper is immediately printed on the other machine. This is exactly like zerox. The only difference is that in zerox the photo copy is obtained at the same machine, but in FAX the photo copy is obtained at the machine whose number is dialed.



These days there is hardly anybody who has not heard about the computer. This is an important invention of the present age. It is a treasure of knowledge especially, when connected to internet. Through internet you can get information about the whole world. All the computers in different parts of the world are connected with a telephone or broadband modem. The information contained in these can easily be obtained. These days examination results can also be viewed on the internet. Reservations in trains and aeroplanes can also be done on internet.

Newspapers can also be read on the internet. You can also send and recieve letters from your freinds on the internet. This is called E-mail. You will read about these in detail in the next class.

Exercise

1. Oral Work

Answer the following questions:

1. What means of communication do we use?
2. Which is the means of communication?
3. Which thing is used to send messages by post in a short time?
4. How many types of telephone services are there?
5. Which telephone service is used for talking within the state?

2. Written Work

A. Answer the following questions:

1. What is the difference between a mobile and a landline phone?
2. Of what use is FAX to us?
3. Along with listening how can we view the news?
4. What do you understand by internet?

5. What means of communication do we use to keep ourselves aware of our surroundings?

B. Fill in the blanks with suitable words:

1. Telephones are of ..... types.
2. For talking abroad through phone ..... service is used.
3. We can also ..... important incidents on television.
4. To send messages very quickly by post ..... is used.
5. Through ..... a written message can be insantly sent.

C. Match the following:

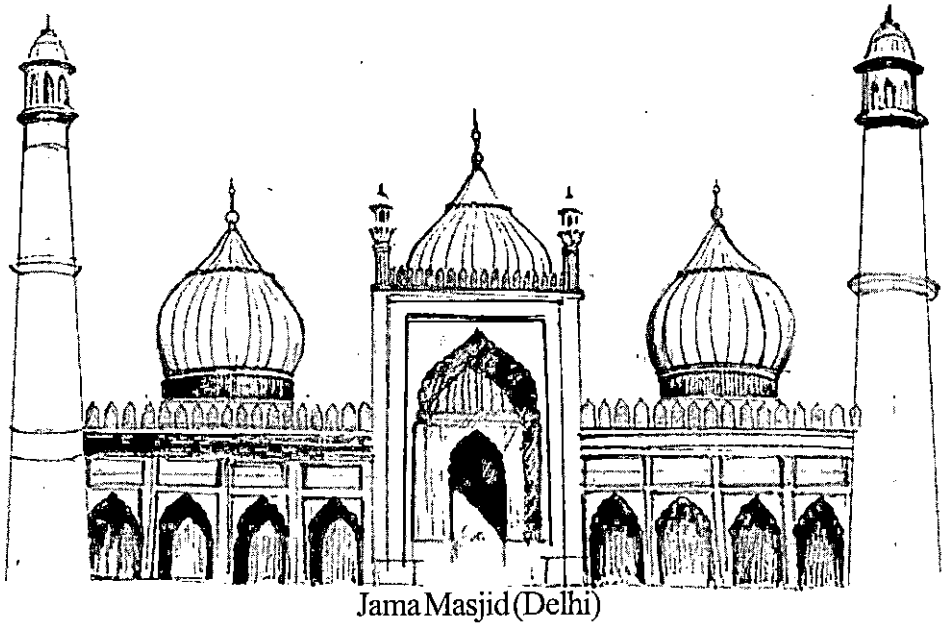
Post Office	Army
Telephone	E-mail
Wireless	Parcel
Computer	Local/STD/ISD

Things to do

Paste pictures of different means of communication in your notebook.

18 A Historical City Delhi

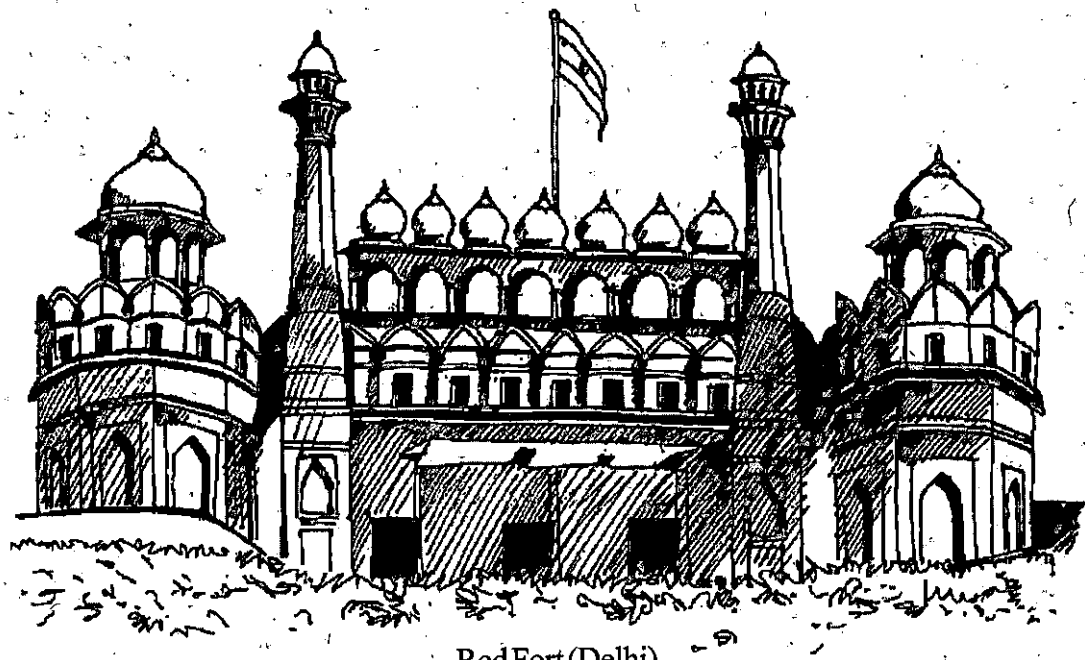
Delhi is called the heart of India. This has been ruled by many kings. Even today it is the capital of our country. If you make a trip to Delhi you will come across many historical places. You are already familiar with many of them. For example the Red Fort, the Jama Masjid, the Qutb Minar. Come let us make a trip around Delhi through pictures.



Jama Masjid (Delhi)

This is the picture of Jama Masjid. It is one of the beautiful and big mosques in India. It was built by Shah Jahan in 1656. This beautiful mosque is built on rock, which is higher than the surrounding land. Red stone has been used for

its construction. But its dome is made of white marble. There is a big tank (Hauz) in the courtyard of the mosque for making ablution (wazu). There are three main gates in the mosque. To reach these doors one has to climb many steps.



Red Fort (Delhi)

This is a famous fort. This is called the Red Fort because its walls are made of red stone. This fort was also built by Shah Jahan in 1648. There are two large gates in this fort. One is "Delhi Darwaza" and the other is "Lahori Darwaza". "Delhi Darwaza" faces towards Delhi; as such it is popularly known as "Delhi Darwaza".

Only Shah Jahan used this gate to go to Jama Masjid for Namaz.

Inside the fort, apart from gardens, there are many palaces. The prominent places inside the fort are

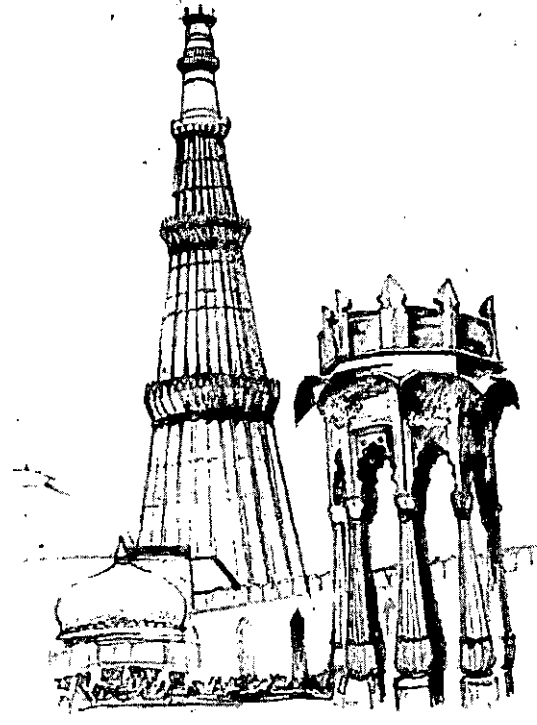
"Deewan-e-Aam" and "Deewan-e-Khas"

The building of "Deewan-e-Aam" is made of red stone. This building is open on three sides. Shah Jahan held court for common people in Deewan-e-Aam. This court was open for everyone.

Deewan-e-Khas is made of white stone. It is a very beautifull building. The ceiling and walls of this building are studded with diamonds, pearls and precious stones.

The peacock throne was in this building only. On this throne the Emperor used to sit. This is called the "Peacock Throne" because it is of the shape of a peaccock. This throne is made of pure marble. Now this throne is kept in a museum of Britain.

Look at this picture. You must be knowing its name. Yes, this is Qutb Minar. It is one of the highest minarets in the world. The construction of the minaret was started by Qutubuddin Aibek about 800 years ago, and completed by Emperor Iltutmish (Altamash).

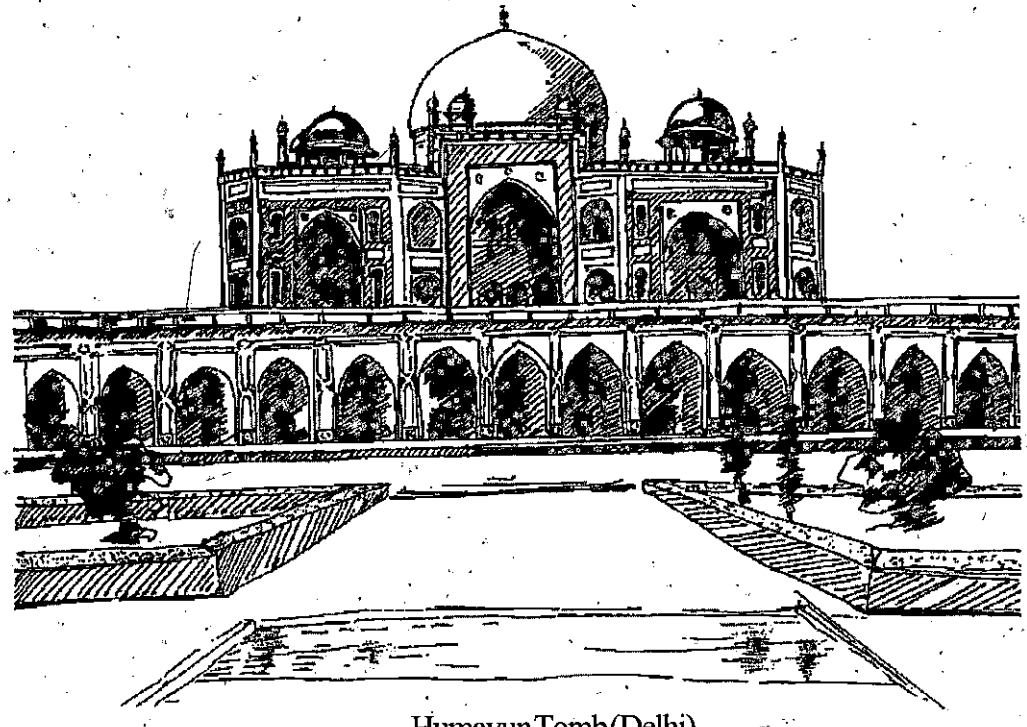


Qutub Minar (Delhi)

In the begining the height of the Qutb Minar was 272 ft. and it was 7 storeyed. But now only five storeys are entact. Two storeys have been damaged by lightening. Now its height is 243 ft. or 73 m.

There is a circular staircase inside this minaret to climb up. One has to climb 287 steps to reach the top.

Now come let us see "Humayun's Tomb" . Do you know what a Tomb is. A building built on a grave is Tomb (Maqbara). Generally this type of building is constructed on



Humayun Tomb (Delhi)

the grave of prominent persons. There is no religious significance of such buildings. Humayun's Tomb was built by his wife Begum Hameeda Bano in 1561. Around the tomb there are beautiful green gardens. There are two glamerous

gates to enter the tomb. The building of the tomb is made of red stone and the dome of marble.

Exercise

1. Oral Work

Answer the following questions:

1. What is the capital of our country?
2. When was the Jama Masjid of Delhi built?
3. Where did Shah Jahan hold court for common people?
4. Where is the Peacock Throne at present?
5. Who built the "Humayun's Tomb?"

2. Written Work

A. Answer the following questions:

1. Name any five historical buildings in Delhi?
2. Which is the biggest mosque in India? Who built it?
3. Who built the Red Fort and when?
4. What was the original height of Qutb Minar and what is its present height?
5. What is a tomb? What is its religous significance?

B. Fill in the blanks with suitable words:

1. Delhi is called the ..... of India.
2. There are three main ..... for entry and exit in the Jama Masjid.
3. The building of Deewan-e-Aam is made of .....
4. Qutb Minar is one of the ..... towers in the world.
5. There are ..... green gardens all around Humayun's Tomb.

Things to do

Find out more about Mughal Architecture from your teacher.